

- A. Sheathes of leaves usually connate; nerves of upper empty glumes single; styles present; chromosomes small or medium in sets of 10. . . . . *Glyceria*.
- AA. Sheaths of leaves open; nerves of upper empty glumes 3; styles absent; chromosomes large, in sets of 7. . . . . *Puccinellia*.

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## PERLUSTRATIONES PLANTARUM ARCTICARUM II:

'PARRY PLANTS' IN THE MANCHESTER MUSEUM

NICHOLAS POLUNIN

AMONG the most interesting of the many botanical collections given by the late James Cosmo Melvill (1845-1929) to the Manchester Museum were three small sets of Parry plants totalling about 130 specimens which were kindly sent to me for identification at Oxford some years ago by the then Curator of the Museum's herbaria, Miss Grace Wigglesworth, as indicated in 'The Manchester Museum . . . Report for the Year 1941-42,' pp. 6-7. The specimens were mounted on small pieces of drawing paper, generally about 16 cm. long by 9 cm. wide, which had subsequently been stuck on to large herbarium sheets stamped nearby with a letter (A, B or C) to indicate the set to which each specimen belonged. To distinguish the small, original sheets from the large herbarium ones, the former will hereafter be called "sheetlets." Although these sheetlets were of varying texture and color within each set, and usually more than one of them was stuck on each herbarium sheet, the stamped letters or other

considerations enabled the specimens to be dealt with in what it seemed reasonable to presume were their three original sets.

Certainly one or two and probably all three of the sets were given to Mr. Melvill in 1927 by the late Sir Sydney Parry, grandson of the navigator and father of the present Admiral Sir W. E. Parry. As a boy Melvill had evidently met the great arctic navigator; and I have seen a letter, dated March 4, 1927 when Melvill was some years past the *four*-score, in which he thanked Sir Sydney for the gift of plants "collected by your grandfather Sir Edward Parry from Port Bowen chiefly." This must be borne in mind firstly because on a sheet of paper accompanying these collections there are written in Mr. Melvill's hand the following confused and misleading notes ". . . given me by Sir Sydney Parry son of the collector Admiral Sir W. E. Parry . . . contains a few of his Arctic Plants collected on the Franklin Expedn. (search for Sir John Franklin)," and secondly because in "A brief account of the Cosmo Melvill Herbarium" (*Manchester Museum Publication* 54, pp. 5 and 12, 1904) there is mention of "Arctic plants, collected during the Franklin expedition" and "Arctic Europe and America . . . Rutherford (Franklin Expedition)." Some of these notes have been repeated in printed and other records but if there is truth in them they must belong to collections other than the present three sets. These sets will now be described in detail, the order and nomenclature followed in each list of component plants being that of my "Botany of the Canadian Eastern Arctic. Part I,"<sup>1</sup> except that the few mosses are named according to Prof. W. C. Steere's contribution to Part II of the same series.<sup>2</sup> Synonyms will in general be given only where they are necessary for direct reference to a cited paper.

SET A. This first set is labelled, on a sheetlet of the size and texture most used for mounting in all the sets, "Plants Port Bowen 1825 lat. 75° long. 115." Below this is written on the same sheetlet "Elizth. Gurney from Capn. Parry." The latter label is in a hand much resembling Parry's but the former was

<sup>1</sup> Canada: Department of Mines and Resources, *National Museum Bulletin* No. 92, pp. vi + 408, 1940.

<sup>2</sup> Polunin *et al.*: 'Botany of the Canadian Eastern Arctic. Part II, Thallophyta and Bryophyta'; Canada: Department of Mines and Resources, *National Museum Bulletin* No. 97, pp. v + 573, 1947.

evidently written by somebody else—not only because of the very different calligraphy but because the figures given for latitude and longitude are so far out as to suggest that the writer had never been to Port Bowen, or even, probably, on the expedition on which the plants were gathered! This expedition, the first label indicates, was Parry's 'Third Voyage for the Discovery of a North-West Passage,' as is upheld by a further label on a separate piece of paper which reads "Dried Plants brought by Sir Edward Parry from Port Bowen 1825. Presented to Elisabeth Gurney" (*sic*). Port Bowen was the wintering place of the expedition and lies in about lat. 73° N. and long. 89° W. on the west coast of the Brodeur Peninsula, Baffin Island. That the collection was lent by one Samuel Gurney for some months in 1876 to a "Scientific Apparatus Exhibition" in the "South Kensington Museum" is to be gathered from formal correspondence in which it is described as "A collection of 30 specimens of dried plants from the Arctic Regions made by Sir Edward Parry mounted on paper—and title page."

This set indeed appears to consist of 30 specimens, viz. the 28 marked "A" and two others marked "B" but almost certainly by mistake (*see* annotated list of the specimens given below). That the present specimens were not considered by W. J. Hooker when preparing his "Botanical Appendix"<sup>3</sup> to Parry's account of the voyage seems evident from almost such a series of considerations as led to a similar conclusion with regard to another set collected on the same expedition and described in the first paper in this series (hereafter cited as "Perl. I").<sup>4</sup> Nevertheless most, and probably all, of the vascular plant taxa represented in either of these sets are mentioned or at least "covered" by Hooker in his appendix.<sup>3</sup> The plants comprising the set described in Perl. I were satisfactorily localized, having been collected at Port Bowen, or on Somerset Island, or on the Whale-fish Islands off the west coast of Greenland. The plants of the present set are

<sup>3</sup> Pp. 121–131 of the appendix to W. E. Parry, 'Journal of a Third Voyage for the Discovery of a North-West Passage from the Atlantic to the Pacific; performed in the years 1824–25, in His Majesty's Ships Hecla and Fury.' *London*: pp. xxviii + 186, and appendix, pp. 1–151, 1826.

<sup>4</sup> Published in the *Journal of Botany* (vol. 80, pp. 81–94, "May, 1942"), the cessation of publication of which is the reason for the time-lag in the appearance of this and some further papers in the series. In Perl. I the plants described were unfortunately referred to as "the University of Durham set"; they have since been generously presented to me personally by the actual owner, Professor J. W. Heslop Harrison, F.R.S.

given no localities except the general one of Port Bowen which can scarcely be correct in all instances; it seems more likely that of these specimens, again, some (e. g. *Saxifraga flagellaris*) came from Somerset Island and others (e. g. *Loiseleuria procumbens*) from the Whale-fish Islands. In any case there are prevailing doubts which must prevent any additional records from being founded on this set.

The only words written on the sheetlets of set A (with the exception of the one moss, which lacks any note) are attempted binominal identifications. These are mostly, but not all, in the same, apparently contemporary hand which though not characteristic may perhaps be Parry's. The specific names are almost invariably capitalized, and spelling mistakes are common and of a type (e. g. "Oppositafolia" and "Flagellaria" in both the present set A and the one from the same expedition described in Perl. I) which suggests that many at least of the identifications were made, if not by the same person, then either from the same (other?) set or at the same time before distribution. Unlike the earlier described set which is watermarked "1825," consideration of the various papers comprising sheetlets in the present set lends weight to the likelihood of the mounting having been done during periods of inactivity on board ship. This mounting and subsequently the identifying were probably, and the distributing after landing most likely, carried out before Hooker took over the (main?) collections for the preparation of his "Botanical Appendix"; for it seems that from these expeditions it was the custom to bring back collections of "dried flowers" for presentation to one's friends.

There follows an annotated list of all the different plants represented in this set A in which, when a specimen is noted as "Correctly named on sheetlet," errors of spelling or undesirable capitals are ignored:

*POHLIA CRUDA* (Hedw.) Lindb. No note on sheetlet. Not included among the three mosses mentioned by Hooker,<sup>3</sup> but earlier recorded from the same general region and now known to occur practically throughout the Canadian Eastern Arctic—cf. Steere.<sup>2</sup>

*CYSTOPTERIS FRAGILIS* (L.) Bernh. Sub nom. *Woodsia*. This species was reported with some doubt from Port Bowen by Hooker<sup>3</sup> (sub syn. *Aspidium fragile*).

*ALOPECURUS ALPINUS* Sm. Correctly named on sheetlet.

*PLEUROPOGON SABINII* R. Br. Correctly named on sheetlet. Only very doubtfully reported from Port Bowen—see Bot. Can. E. Arctic, I, p. 64—though probably occurring there, even if this specimen may well have come

from elsewhere. Concerning the use of this specific name, see Polunin in Bull. Torr. Bot. Club 71: 248, 1944.

*SALIX ARCTICA* Pall., s. l. Labelled "Salix Arctica 'The largest tree near the North Pole'." This specimen has peculiarly light-colored, long and narrow bracts rather reminiscent of *S. glauca* var. *stenolepis* (Flod.) Polunin.

*POLYGONUM VIVIPARUM* L. Correctly named on sheetlet.

*LYCHNIS APETALA* L. Correctly named on sheetlet.

*CERASTIUM ALPINUM* L., s. l. One of the eight sheetlets of this, although marked "B," is labelled "Cerastium Alpinum" in the same characteristic calligraphy as almost all of set A, to which it presumably belongs.

*ARENARIA RUBELLA* (Wahlenb.) Sm. Correctly named on sheetlet.

?*RANUNCULUS SULPHUREUS* Soland. in Phipps. Labelled "Ranunculus Sulphureus" on sheetlet but the determination somewhat uncertain owing to the incompleteness and state of the specimen. *R. sulphureus*, which was included by Hooker<sup>3</sup> in *R. nivalis*, has not yet been authoritatively recorded from Port Bowen but probably occurs there.

*PAPAVER RADICATUM* Rottb. Labelled on sheetlet "Papaver Nudicaule."

*COCHLEARIA OFFICINALIS* var. *GROENLANDICA* (L.) Gelert in Anderss. & Hesselm. Labelled on sheetlet "Cochlearia Fenestrata."

*EUTREMA EDWARDSII* R. Br. Correctly named on sheetlet.

*DRABA ALPINA* L. [approaching var. *nana* Hook., emend. Fernald]. Labelled on sheetlet "Draba Alpina."

*DRABA FLADNIZENSIS* Wulfen, s. l. Labelled on sheetlet "Draba Androsacea." Also probably belonging to the present species is an indeterminable scrap labelled on sheetlet "Diapensia Lapponica."

*BRAYA PURPURASCENS* (R. Br.) Bunge in Ledeb. Labelled on sheetlet "Platypetalum purpurascens" (synonym).

*SAXIFRAGA CERNUA* L. Correctly named on sheetlet.

*SAXIFRAGA CAESPITOSA* f. *UNIFLORA* (R. Br.) Engler & Irmscher. Labelled on sheetlet "Saxifraga Caespitosa"—cf. Hooker.<sup>3</sup>

*SAXIFRAGA FOLIOLOSA* R. Br. (*S. stellaris* var. *comosa* Retz.) Labelled on sheetlet, but perhaps fairly recently, "Saxifraga congesta?"

*SAXIFRAGA NIVALIS* L. Correctly named on sheetlet.

*SAXIFRAGA FLAGELLARIS* Willd. ex Sternb. Correctly named on sheetlet. Not known from Port Bowen or anywhere in Baffin Island but plentiful on Somerset Island ("North Somerset") whence, therefore, the present specimen probably originated (cf. distribution given in Bot. Can. E. Arctic, I, p. 265).

*SAXIFRAGA HIRCULUS* var. *PROPINQUA* (R. Br.) Simmons. Labelled on sheetlet "Saxifraga Propinqua" (synonym).

*SAXIFRAGA OPPOSITIFOLIA* L. Correctly named on sheetlet.

*POTENTILLA PULCHELLA* R. Br. Correctly named on sheetlet. Not known from Port Bowen, where, however, it seems likely to occur.

*DRYAS INTEGRIFOLIA* M. Vahl. Originally correctly named on sheetlet.

?*PYROLA GRANDIFLORA* Rad. Although marked "B," this sheetlet is labelled "Pyrola Rotundifolia" in the same calligraphy as almost all of set A, to which it presumably belongs. The specimen is an indeterminable scrap, probably belonging to *P. grandiflora*, which is not yet known from Port Bowen although quite likely to occur there.

*LOISELEURIA PROCUMBENS* (L.) Desv. Labelled on sheetlet "Azalea Procumbens" (synonym). Not yet recorded from Port Bowen or anywhere else so far north in the Canadian Eastern Arctic.

*PEDICULARIS HIRSUTA* L. Labelled on sheetlet "Pedicularis Arctica."

TARAXACUM PHYMATOCARPUM J. Vahl in Hornem., *s. l.* (*Leontodon palustre* of some early authors). Not yet known from Port Bowen, but its general (and local) distribution suggests that it is very likely to occur there.

SET B. This second set is much the largest of the three. Some of its sheetlets are unmarked, but the majority are clearly labelled in Parry's neat and characteristic hand with both the locality and the year of collection. Other notes on the sheetlets, such as attempted identifications, are entirely lacking, but apparently belonging to this set are two separate sheetlets of the size and texture most often used for mounting throughout. One of these is labelled in the same hand as (and similarly to) the first mentioned under A, except that the latitude and longitude are omitted; the other is labelled in Parry's own hand and reads "Plants from Port Bowen the last wintering place of H. M. Ships Hecla and Fury in the Arctic Regions. 1824-5." But even if the plants were all "brought" (e. g. as "souvenirs") from Port Bowen or the nearby but "far superior" Neill's Harbour, to which the expedition returned before sailing for home, they were not by any means all gathered there; so much is clear from the individual labels on the mounting sheetlets and supported by the identity of some of the specimens themselves. Experience has shown that such individual labels can normally be relied upon, whereas the more general ones of those days often cannot; accordingly it would be unsafe to assume that the unlabelled specimens were collected at Port Bowen, or, once again, to found any records on them.

This set of plants appears to have been retained by Parry and kept in his family until it was given to Mr. Melvill in 1927. Moreover I am inclined to the opinion that, for once, either these specimens or a set of duplicates was seen by Hooker when preparing his "Botanical Appendix"; thus with a very few exceptions the records are all, and correctly, included in this appendix,<sup>3</sup> and the chief of these exceptions, *Papaver* from Port Bowen, is not only easily explained but its omission is rather to be expected (*see* below). The few mosses may well have been ignored by Hooker because they were entirely unlocalized; he was careful in this appendix to give precise localities for all the plants which he included.

?*POHLIA CRUDA* (Hedw.) Lindb. Scrap only, without label. Cf. above.

*TOMENTHYPNUM NITENS* (Schreb.) Loeske. Minor portion of a tuft mostly composed of the next species. The sheetlet lacks a label apart from the "B" stamped nearby. Neither this nor the next moss is among the three reported by Hooker in his appendix,<sup>3</sup> but the present species had earlier been recorded from the same general region and is now known to occur practically throughout the Canadian Eastern Arctic—cf. Steere.<sup>2</sup>

*CTENIDIUM PROCERRIMUM* (Mol.) Broth. No label—see above. Although circumboreal, this plant has rarely been collected in the Canadian Eastern Arctic whence it was hitherto known only from rather farther north than Parry reached.

*ALOPECURUS ALPINUS* Sm. Two sheetlets, one labelled "Port Bowen 1825" and the other "Whale-fish Islands<sup>5</sup> 1824"; also a third sheetlet without note or designation which seems most likely to belong here.

*ARCTAGROSTIS LATIFOLIA* (R. Br.) Griseb. (*Colpodium latifolium* R. Br.). Port Bowen 1825.

*DESCHAMPSIA BREVIFOLIA* R. Br. Port Bowen 1825.

*POA ABBREVIATA* R. Br. Lacking locality or date, but superficially resembling the last and so placed with it as to suggest that they had been considered duplicates—perhaps from the time of collection. Already reported by Hooker<sup>3</sup> from "Port Bowen, very abundant."

*POA ARCTICA* R. Br. North Somerset<sup>6</sup> 1825.

*SALIX ARCTICA* Pall., s. l. Two sheetlets, one labelled "Port Bowen<sup>7</sup> 1825."

*SALIX GLAUCA* L., s. l. (cf. *S. cordifolia* Pursh). Whale-fish Islands 1824. Not reported by Hooker (*l. c.*), but probably included by him under some other species. According to M. P. Porsild (*Medd. om. Grønland*, vol. 58, p. 66, 1920), both *S. glauca* and phases of *S. arctica* are plentiful in this region.

*OXYRIA DIGYNA* (L.) Hill (*O. reniformis* W. J. Hooker). Two sheetlets, one labelled "North Somerset<sup>6</sup> 1825."

*POLYGONUM VIVIPARUM* L. Two sheetlets, one labelled "Port Bowen 1825."

*LYCHNIS APETALA* L. Three sheetlets, two being labelled "Port Bowen 1825."

*CERASTIUM ALPINUM* L., s. l. Five sheetlets, including two labelled "Port Bowen 1825" and two labelled "Whale-fish Islands 1824."

*STELLARIA LONGIPES* Goldie (*S. edwardsii* of authors). North Somerset 1825.

*ARENARIA RUBELLA* (Wahlenb.) Sm. Two sheetlets, one labelled "North Somerset 1825."

*RANUNCULUS NIVALIS* L. Cape Warrender<sup>8</sup> 1824. There is a duplicate specimen in Herb. Edinburgh (see Bot. Can. E. Arctic, I, p. 216, footnote 1).

*RANUNCULUS SULPHUREUS* Soland. in Phipps. North Somerset 1825. Included by Hooker<sup>3</sup> in *R. nivalis*, which is noted as "North Somerset, very abundant" (but see Perl. I).

*PAPAVER RADICATUM* Rottb. (*P. nudicaule* of some authors, not L.). Two sheetlets, both labelled "Port Bowen 1825." Recorded by Hooker<sup>3</sup> only from "North Somerset," but this does not necessarily mean that he did not see the

<sup>5</sup> C. 69° N. off the coast of West Greenland. Visited on the outward voyage.

<sup>6</sup> Now called Somerset Island.

<sup>7</sup> Any residual sheetlet which is not mentioned as labelled may be understood to be unlabelled.

<sup>8</sup> Lat. 74° 26' N. and long. 81° 44' W. on Devon Island (previously called "North Devon").

present specimens, as (1) there are similarly labelled duplicates of the present specimens in both the British Museum and Kew herbaria, and (2) this very common plant is the only one implied specifically—as only one species of “poppy” is known from the region—by Parry in his narrative of his ‘first’ voyage<sup>9</sup> as having been seen not far from Port Bowen already in 1819—cf. also Hooker’s introductory remarks to his appendix<sup>3</sup> in which he explains that “this list has been reduced to as small a compass as possible, there being but few plants which had not been found during the previous voyages.”

COCHLEARIA OFFICINALIS L., *s. l.*, vars. (*C. fenestrata* of authors). Two rather doubtful sheetlets belonging to this difficult polymorph: one, labelled “North Somerset 1825,” is referable to var. *oblongifolia* (DC.) Gelert in Anderss. & Hesselm., which has not hitherto been reported from Somerset Island but may be a mere *forma crassa* of the better marked var. *groenlandica* (L.) Gelert in Anderss. & Hesselm., to which the other specimen, that is unlabelled, probably belongs. However, it is atypical in being upright and leafy, though small, and in having subspherical siliques.

EUTREMA EDWARDSII R. Br. Three sheetlets, two of them labelled “Port Bowen 1825.”

CARDAMINE BELLIDIFOLIA L. Mere scrap without label.

DRABA ALPINA L. [approaching var. *nana* Hook., emend. Fernald]. Two sheetlets, one labelled “Port Bowen” (without date).

DRABA FLADNIZENSIS Wulfen, *s. l.* (*D. hirta* var. of some authors). Two sheetlets, both labelled “Port Bowen 1825.”

BRAYA PURPURASCENS (R. Br.) Bunge in Ledeb. (*Platypetalum purpurascens* R. Br., *Braya arctica* Hook.). Two sheetlets: the one labelled “Port Bowen 1825” is a mere scrap insufficient for certain determination but appears to belong to var. *dubia* (R. Br.) O. E. Schulz, as the only silique remaining is short and pilose. This scrap would seem to have been too small for Hooker, if indeed he saw the present specimens before publishing his ‘Botanical Appendix’, as he says,<sup>3</sup> “Of my supposed *Braya arctica*, there were only specimens in flower in the collection, and these flowers were scarcely fully developed.”

SAXIFRAGA RIVULARIS L. Whale-fish Islands 1824.

SAXIFRAGA CERNUA L. Three sheetlets, two of them labelled “Port Bowen 1825.”

SAXIFRAGA CAESPITOSA f. UNIFLORA (R. Br.) Engler & Irmscher. Three sheetlets, one atypical and the others labelled “Port Bowen 1825”—cf. Hooker.<sup>3</sup>

SAXIFRAGA FOLIOLOSA R. Br. (*S. stellaris* var. *comosa* Retz.). No locality or other note.

SAXIFRAGA NIVALIS L. Two sheetlets, one labelled “Port Bowen 1825.”

SAXIFRAGA FLAGELLARIS Willd. ex Sternb. Two sheetlets, one labelled “North Somerset 1825.”

SAXIFRAGA HIRCULUS var. PROPINQUA (R. Br.) Simmons. Three sheetlets, including one labelled “Port Bowen 1825” and another labelled “North Somerset 1825”—cf. Hooker.<sup>3</sup>

SAXIFRAGA OPPOSITIFOLIA L. Three sheetlets, two of them labelled “Port Bowen 1825.”

POTENTILLA PULCHELLA R. Br. Two sheetlets, one without any note and the other labelled “North Somerset 1825,” whence the species was already

<sup>9</sup> W. E. Parry, “Journal of a Voyage for the Discovery of a North-West Passage from the Atlantic to the Pacific; performed in the years 1819–20, in His Majesty’s Ships Hecla and Griper.” London: pp. xxix + 310, and appendix, 1821.



reported by Hooker.<sup>3</sup> This latter is rather a doubtful specimen which has unusually large cauline leaves and relatively sparse indumentum but is insufficient for description if new.

*DRYAS INTEGRIFOLIA* M. Vahl. Three sheetlets, two being labelled "Port Bowen 1825" and one of these approaching f. *intermedia* (Nathorst) Polunin.

*EMPETRUM NIGRUM* var. *HERMAPHRODITUM* (Lange) Soerensen. Whale-fish Islands 1824—cf. Hooker.<sup>3</sup>

*LOISELEURIA PROCUMBENS* (L.) Desv. (*Azalea procumbens* L.). Whale-fish Islands 1824.

*VACCINIUM ULIGINOSUM* var. *ALPINUM* Bigel. Whale-fish Islands 1824—cf. Hooker, *l. c.* p. 126.

*PEDICULARIS HIRSUTA* L. Three sheetlets, two of them labelled "Port Bowen 1825."

?*ANTENNARIA ANGUSTATA* Greene (*A. alpina* of authors, not L.). Whale-fish Islands 1824. Not quite typical.

*CHRYSANTHEMUM INTEGRIFOLIUM* Richardson. North Somerset 1825.

SET C This is the last and smallest of the sets under consideration here. It consists of 27 sheetlets, representing 20 species of angiosperms (*see* list below), and seems to be something of a 'rubbish heap.' Thus on a small paper label stuck to a wooden board which accompanied the specimens when they reached Manchester is written—apparently by Parry, and ending with his signature—"Specimens of Plants collected in the Polar Regions A. D. 1819–20 by W. Parry." According to this the specimens should have been collected during Parry's 'first' voyage, probably (but not necessarily—*see* Perl. I) on Melville Island. This is indeed upheld by three of the four labels occurring on the individual sheetlets (the majority are unmarked), but significantly enough not by the fourth such label, which reads "*Luzula Hyperborea* Iglookik" and indicates that this and perhaps some of the other specimens were collected during Parry's "second" voyage (1821–23). In this connection it is significant to note that four of the species in this set are unrepresented in Robert Brown's "*Chloris Melvilliana*,"<sup>10</sup> although two of these are now known to grow on Melville Island and the other two seem not unlikely to occur there. Thus, once again, it is evident that we must not allow any new records to be founded on the unlabelled specimens in this collection, while the four specimens that are labelled and localized (*see* below) merely substantiate old reports:

<sup>10</sup> 'A list of plants, collected in Melville Island, by the officers of the expedition; with characters and descriptions of the new species': pp. cclxi–cccx of the 'Supplement to the Appendix of Captain Parry's Voyage for the Discovery of a North-West Passage, in the years 1819–20'. London: pp. clxxxi–cccx, 1824.

POA ARCTICA R. Br. Two sheetlets.

LUZULA NIVALIS (Laest.) Beurl. (*L. hyperborea* R. Br., in part). Labelled "Luzula Hyperborea Igloolik": there is a similar specimen in Herb. Copenhagen.

?SALIX POLARIS Wahlenb. An interesting but problematical specimen: leaves entire to subentire, somewhat hairy like the young twigs; bracts dark brown and rounded, broad, hairy; capsule densely white-tomentose—characters that, although they strongly suggest the variable *S. polaris*, of which I have collected similar forms in Spitzbergen and on mountains in the extreme north of Scandinavia, still do not exclude phases of the even more variable *S. arctica* (cf. H. G. Simmons, 'A Survey of the Phytogeography of the Arctic American Archipelago,' p. 73, 1913) or some hybrids of *S. herbacea*. It would not be altogether inaccordant with the known range of *Salix polaris* that it should occur on Melville Island, which has distinct "western" relationships phyto-geographically and lies only a few hundred miles east of areas whence plants that have been authoritatively referred to it have been reported (e. g. by Simmons, *l. c.*); again, a few hundred miles to the east in the Lancaster Sound region *Salix herbacea* is not rare (see Bot. Can. E. Arctic, I, p. 156), though I have searched in vain for its hybrids hereabouts. But in any case the locality of the present specimen is doubtful and no new record can be founded on it, although both *S. polaris* and *S. herbacea* should be searched for on Melville Island. Actually, the representative of *S. polaris* to be expected on Melville Island should any occur there, is subsp. *pseudopolaris* (Flod.) Hultén, Fl. Alaska and Yukon, III, p. 510, 1943, which is stated by Hultén (*l. c.*) to constitute "a not too distinct geographical race of *S. polaris*, characterized by light-coloured bracts with wavy hairs."

POLYGONUM VIVIPARUM L.

CERASTIUM ALPINUM L., *s. l.* Two sheetlets, one labelled "Cerastium Alpinum Melville Island North Georgia."

STELLARIA HUMIFUSA Rottb. Two sheetlets, unfortunately unlabelled. Not yet recorded from Melville Island but probably occurring there; circum-polar but of diminutive stature and restricted (saline) habitat, hence generally overlooked.

RANUNCULUS SULPHUREUS Soland. in Phipps (*Ranunculus nivalis* var. of some authors). Two sheetlets.

PAPAVER RADICATUM Rottb. (*P. nudicaule* of some authors, not L.). Labelled "Papaver Nudicaule Melville Island North Georgia."

?DRABA ALPINA L., *s. l.* Atypical but inadequate scrap.

BRAYA PURPURASCENS (R. Br.) Bunge in Ledeb. (*Platypetalum purpurascens* R. Br.).

SAXIFRAGA RIVULARIS L. (*S. hyperborea* R. Br.).

SAXIFRAGA CERNUA L.

SAXIFRAGA CAESPITOSA f. UNIFLORA (R. Br.) Engler & Irmscher (*S. uniflora* R. Br.).

SAXIFRAGA FOLIOLOSA R. Br. Two sheetlets.

SAXIFRAGA NIVALIS L. Two sheetlets, of which one is apparently normal and the other represents a peculiar form rather reminiscent of, and possibly resulting from hybridization with, *S. hieracifolia* Waldst. & Kit.

SAXIFRAGA TENUIS (Wahlenb.) H. Smith (*S. nivalis* var. *tenuis* Wahlenb., *S. nivalis* var. " $\beta$ . corymbus simplicissimus pauciflorus" R. Br.).

SAXIFRAGA FLAGELLARIS Willd. ex Sternb.

POTENTILLA HYPARCTICA Malte (*P. emarginata* var. *typica* Abrom.). Not mentioned by Brown,<sup>10</sup> but the species is now known to occur on Melville Island—see Simmons, *op. cit.* p. 108.

CASSIOPE TETRAGONA (L.) D. Don (*Andromeda tetragona* L.). Two sheetlets, one labelled "Andromeda Tetragona Melville Island North Georgia."

PEDICULARIS HIRSUTA L. Not reported by Brown<sup>10</sup>, but now known to occur on Melville Island—see Simmons, *op. cit.* p. 124.

In conclusion it is a pleasure to acknowledge indebtedness to Mr. Strickland Gibson, lately Keeper of the University Archives, Oxford, for advice and assistance with the identification of handwriting, and to thank my colleague Dr. A. R. Clapham for so kindly determining the mosses mentioned in this contribution. Grateful acknowledgment is also due to the John Simon Guggenheim Memorial Foundation for their generosity in granting a research fellowship and to Harvard University for once again affording facilities and an honorary appointment for the continuation of my multifarious works in arctic botany.—GRAY HERBARIUM.

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THE PROPAGATION OF THE CAMPERDOWN ELM.—My recent encounter with Fernald's<sup>1</sup> rather irritated comment on carelessness in books on trees leads me to recount an instance of a statement in an otherwise useful and dependable book on trees. In this book the statement is made that the common Camperdown Elm is propagated by a reverse graft. I do not know what a *reverse* graft may be but suppose it to be one in which the top of the scion points downward.

I have never grafted any Camperdown elms, but I have seen such grafts shortly after they had been made and found the scions were upright. I have been assured by plant propagators, superintendents of arboreta and foremen of extensive nurseries that the Camperdown elm is always grafted with the scion in the normal upright position. The Camperdown elm, like the weeping mulberry, is so strongly recumbent that it must be "worked" on a standard to prevent its creeping on the ground. In fact, I have one which was grafted near the ground level that is being used as a ground cover.

I had long ago heard the folk tale of the upside-down grafting to propagate weeping trees but supposed it had passed out of

<sup>1</sup> Fernald, M. L. "Why so many careless books on trees and other plants?" *Rhodora*: 52: 272-279, 1950.